

Notice of Allowability

Application No.

10/777,705

Examiner

Lucy P. Chien

Applicant(s)

ONDA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed on 2/13/2004.
2. ☒ The allowed claim(s) is/are 1,3-6,8-18,20-23,26 and 27.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Amended Title: Liquid crystal display with a conductive column having a ground column directly contacting a first electrode surrounded by a seal.

The following is an examiner's statement of reasons for allowance:

Claims 1,3-6,8-16,17,18,20-23,26,27 are allowed.

Regarding Claim 1,17,18,

Tani (US 6392735) discloses a first (20) and second (10) substrate; a liquid crystal (CG) retained between the first and second substrate; at least one first conductive column (23) formed on the first substrate, the first conductive column (23) comprising a ground column (22) made of an elastic resin and a first electrode (123) which covers the ground column (22); at least one conductive column (22) contact portion (where 23 and 36b contact each other) electrically connected to the first conductive column by contacting the first electrode (123) through the conductive spacers (36b), and formed above the second substrate (10); and a seal (36a) which bonds the first and second substrate by contacting at least one part of the first conductive column (23) except a part of the first conductive column (23) which connects the conductive column contact

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portion (where 36b and 23 touch), wherein at least one first conductive column is surrounded by the sea, and the seal shrinks when a sealing material is set.

Although Tani does not directly say the seal shrinks when a sealing material is set, it is known in the art if the seal is made of thermosetting material or UV curing material the seal will shrink when it is set as shown in Kane et al (US 6292249)(Column 4, rows 1-16).

Miyazaki (US 5978061) discloses (Fig. 9) the conductive column (38) directly contacting the electrode (24). But does not disclose the conductive column surrounded by the seal.

Miki et al (US 20030231276) discloses (Fig. 10) conductive spheres (30) directly contacting the electrode (18C) surrounded by the seal (13). But it is not obvious to replace the conductive sphere with a conductive column.

The prior art of record does not disclose nor would it be obvious to combine another reference to disclose wherein the conductive column contact portion is electrically connected to the first conductive column *by direct contact* of the first electrode being surrounded by the seal. Therefore is patentable over the prior art.

Claims 3-6,8-16 are dependent on Claim 1, therefore are allowable.

Claims 26 is dependent on Claim 17, therefore are allowable.

Claims 20-23,27 are dependent on Claim 18, therefore are allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy P. Chien whose telephone number is 571-272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lucy P Chien
Examiner
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ADAM SCHUTT
PRIMARY EXAMINER